

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method for reducing SO_3 in a combustion process of a sulfur-containing fuel, the method steps comprising:

- a) partially combusting the fuel in a first stage to create a reducing environment;
- b) maintaining the reducing environment for a sufficient time period such that SO_3 is reduced to SO_2 to achieve a desirable level of SO_3 ;
- c) combusting the remainder of the fuel and combustion intermediates in a second stage with oxidizing environment;

thereby reducing the levels of SO_3 in the flue gases.

2. (Original) The method of claim 1, further including the step of micro-staging the first stage fuel combustion.

3. (Original) The method of claim 2, wherein the micro-staging is provided through the use of low- NO_x burners.

4. (Original) The method of claim 1, further including the step of macro-staging the first stage of fuel combustion.

5. (Original) The method of claim 4, wherein the macro-staging is provided through the use of over-fired air.

6. (Original) The method of claim 1, further including a combination of micro-staging and macro-staging.

7. (Original) The method of claim 6, wherein the micro-staging is provided by low-NO_x burners and the macro-staging is provided by over-fired air.

8. (Original) The method of claim 1, wherein the fuel is coal.

9. (Original) A combustion furnace operated with a method for controlling SO₃ in a combustion process of a sulfur-containing fuel, the method steps comprising:

- a) partially combusting the fuel to create a reducing environment;
- b) maintaining the reducing environment for a sufficient period such that SO₃ is reduced to SO₂ to achieve a desirable level of SO₃;
- c) combusting the remainder of the fuel in an oxidizing environment;

thereby reducing the conversion of levels of SO₃ in the flue gases.

10. (Original) The method of claim 9, further including the step of micro-staging the first stage fuel combustion.

11. (Original) The method of claim 10, wherein the micro-staging is provided through the use of low-NO_x burners.

12. (Original) The method of claim 9, further including the step of macro-staging the first stage of fuel combustion.

13. (Original) The method of claim 12, wherein the macro-staging is provided through the use of over-fired air.

14. (Original) The method of claim 9, further including a combination of micro-staging and macro-staging.

15. (Original) The method of claim 14, wherein the micro-staging is provided by low-NO_x burners and the macro-staging is provided by over-fired air.

16. (Original) The method of claim 9, wherein the fuel is coal
17. (Original) A method for controlling SO_3 concentrations in a combustion process of a sulfur-containing fuel, the method steps comprising:
- a) partially combusting the fuel in a first stage to create a reducing environment;
 - b) adjusting the reducing environment time period such that SO_3 is preferentially reduced to SO_2 to achieve a desirable level of SO_3 ;
 - c) combusting the remainder of the fuel and combustion intermediates in a second stage with oxidizing environment;
- thereby controlling the levels of SO_3 in the flue gases.
18. (Original) The method of claim 17, further including the step of micro-staging the first stage fuel combustion.
19. (Original) The method of claim 18, wherein the micro-staging is provided through the use of low- NO_x burners.
20. (Original) The method of claim 17, further including the step of macro-staging the first stage of fuel combustion.
21. (Original) The method of claim 20, wherein the macro-staging is provided through the use of over-fired air.
22. (Original) The method of claim 17, further including a combination of micro-staging and macro-staging.
23. (Original) The method of claim 22, wherein the micro-staging is provided by low- NO_x burners and the macro-staging is provided by over-fired air.
24. (Original) The method of claim 17, wherein the fuel is coal.